REMARKS

Applicants have now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of April 6, 2004. Claims 1-20 remain in this application. Claim 20 has been amended to correct certain informalities.

Reconsideration of the Application is requested.

The Office Action

Claims 1, 2 and 8 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.

Claims 1, 3-8, 12, and 17-20 were rejected under 35 U.S.C. §102(e) as being anticipated U.S. Patent No. 6,549,897 B1 to Katariya et al.

Claims 2, 9-11, and 13-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,549,897 B1 to Katariya et al. in view of U.S. Patent No. 6,021,196 to Sandford, II et al.

The Non-statutory Subject Matter Rejection

The Examiner rejected claims 1, 2, and 8 as being directed to non-statutory subject matter, arguing that 1) the claimed subject matter does not fall within one of the four statutory classes of inventions under §101; and/or 2) the claimed subject matter falls within the printed matter exception to §101. For support of these propositions, the Examiner relied upon Diamond v. Chakrabarty, 206 U.S.P.Q. 193 (S. Ct. 1980) and In re Miller, 164 U.S.P.Q. 46 (C.C.P.A. 1969) respectively. However, the case law concerning the patentability of computer programs has evolved since Chakrabarty. In this regard and in light of more recent Federal Circuit case law, it is submitted that a data format (as in the subject embodiments) falls within statutory subject matter, and is therefore patentable.

For example, the Federal Circuit directly addressed the patentability of data structures in the more recent case of In re Lowry, 32 U.S.P.Q.2d 1031 (Fed. Cir. 1994). Lowry concerned claims directed at a memory containing a stored data structure, claims which the examiner rejected, *inter alia*, under §101 as non-statutory subject matter. The Board reversed the §101 rejection. It found that the claims, "directed to a memory containing stored information, as a whole, recited an article of manufacture," and concluded that the claimed invention was statutory subject matter. Id. at 1033. The Court accepted the Board's reversal of the §101

rejection without comment. Id. at 1035. Thus, a data structure may be patentable subject matter under the category of manufacture.

Significantly, in State Street Bank & Trust Co. v. Signature Financial Group, Inc., 47 U.S.P.Q.2d 1596 (Fed. Cir. 1998), the Federal Circuit established practical application as the standard for statutory subject matter. State Street involved a hub and spoke system whereby mutual funds (spokes) pool their assets in an investment portfolio (hub) organized as a partnership. Id. at 1596. The claims in Signature's patent were drawn to using a formula to calculate, *inter alia*, the allocation ratios among the spokes, i.e. using method steps to implement a formula. In the suit, State Street sought a declaratory judgment asserting invalidity on grounds that the patent failed to claim statutory subject matter under §101. The district court granted summary judgment of invalidity, and the case was appealed to the Federal Circuit. The Federal Circuit disagreed, holding that "the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result.'" Id. at 1061. The Court went on to clarify the question to be answered in assessing statutory subject matter: "The question of whether a claim encompasses statutory subject matter should not focus on *which* of the four categories of subject matter a claim is directed to – process, machine, manufacture, or composition of matter – but rather on the essential characteristics of the subject matter, in particular, its practical utility." Id. at 1602 (emphasis in original).

Turning now to the practical utility of the present exemplary embodiments, claims 1, 2, and 8 each recite "a data format describing a document, including document data and document intent information." The document data is transformed by adding the document intent information to the document data to produce a new document. Without this data format, a receiver of a document would have no understanding of the intentions that the document creator had for the original document. Thus, the receiver of the document would be left with only the document itself to guide him. The utility thus exists in providing the receiver with a document format which provides increased information such that the receiver may produce the document with increased fidelity to the intentions of the document creator. As such, the document format produces a useful, concrete and tangible result, has practical utility and is, therefore, statutory subject matter.

Regarding the argument that the claimed subject matter falls within the printed matter exception to §101, the Federal Circuit has more recently limited the printed matter exception. The data structure in Lowry, detailed above, was also rejected by the Board on grounds that it represented only printed matter. However, the Court disagreed. The Court distinguished Lowry from the printed matter cases, which "dealt with claims defining as the invention certain novel arrangements of printed lines or characters, useful and intelligible only to the human mind." Lowry, 32 U.S.P.Q.2d at 1034 (quoting In re Bernhart, 163 U.S.P.Q. 611 (C.C.P.A. 1969)). In other words, a layout of a printed page cannot be patented. However, the Court continued by stating that the "printed matter cases have no factual relevance where 'the invention as defined by the claims *requires* that the information be processed not by the mind but by a machine, the computer.'" Id. (emphasis in original).

Turning to the present embodiments, the data format of claims 1, 2, and 8 may be similarly processed either by a computer or a human. Therefore, it is submitted that the printed matter exception to §101, as refined by Lowry, does not apply to claims 1, 2, and 8.

The Claims are Patentably Distinguishable Over the Cited Patents.

The Examiner rejected claims 1, 3-8, 12, and 17-20 as being anticipated by Katariya. However, Katariya fails to teach or suggest document intent information and quantified document intent information, as claimed and disclosed.

Katariya shows a computer system for searching documents. The system calculates the number of occurrences of each specific term or phrase on a document page and then provides a relative weight for each term or phrase as compared to other terms and phrases within that document page. Thus, if the term "car" occurs most frequently on the page, the term "car" receives the highest weight for that page. Katariya does not show quantifying the creative intentions of the document creator.

The present development, however, is directed to a technique for quantifying the creative intentions of the document creator. Applicants refer the Examiner to page 1, line 10 – page 2, line 10 where the concept of a document intent is defined. Documents have different appearances which depend largely on the intentions of the creator. A document creator makes stylistic and design choices when creating a document. Intents are the reasons behind these design choices. For example, a document creator makes choices among different style (e.g. bold vs. normal text) and rendering (e.g. halftoning vs. continuous toning) values and between different potential layout formats (e.g. left hand margin value, centered vs. justified text) of the document to produce a desired effect. The document intent information helps convey the importance of various choices by providing document intent information along with quantitative weightings to the document receiver. For example, an intent of the creator may be to keep output costs low at the expense of producing a less clear color image. Therefore, the creator would give the low cost intent factor a higher quantitative weight than the clear output image intent factor.

Applicants also refer the Examiner to page 7, lines 4-23 for an example of document intents. In this single page advertising example, the intent of "high attention" is weighted more strongly than, for example, low cost. The present exemplary embodiments assign quantitative values to these intents. When the receiver of the document prints the document or displays it on the CRT screen, the receiver may use the intents and their relative weightings to make receiver-side choices in display, an example of which is at page 7, lines 10-20. If the output is CRT, the blinking text style may be used to draw the maximum amount of attention

(the intent of the creator). However, on a print output device, blinking text is not available. The high attention intent therefore instructs the receiver to make receiver-side choices, e.g. to use bold text or some other style or layout that cause the document to draw the maximum amount of attention.

This quantitative document intent information feature is not present in Katariya, and hence, claims 1, 3-8, 12, and 17-20 are patentably distinct from Katariya. Therefore, claims 1, 3-8, 12, and 17-20 should be allowed.

The Examiner rejected claims 2, 9-11, and 13-17 as being unpatentable over Katariya in view of Sandford II. However, the suggested combination does not render the claims obvious.

As discussed in detail above, Katariya shows a computer system which calculates the number of occurrences of each specific term or phrase on a document page and then provides a relative weight for each term or phrase as compared to other terms and phrases within that document page. It does not show quantifying the creative intentions of the document creator.

Sandford II shows a method of embedding auxiliary information into a digital representation of publication quality color-component digital data, for example, embedding a removable, visible digital watermark in publication quality digital image data. Sandford II does not, however, show quantitative document intent information.

Because these cited patents relate to different aspects of digital pages and/or images, it is submitted that they are not combinable. However, even if the teachings of these documents were somehow combined, the resultant combination would not render the claims obvious. Neither Katariya nor Sandford II teach the document intent information or quantitative document intent information recited in the present application. As such, any combination of the two would likewise lack the recited document intent information and quantitative document intent information. Accordingly, claims 2, 9-11, and 13-17 are patentably distinct from these cited references and should be allowed.

CONCLUSION

For the reasons detailed above, it is submitted all claims remaining in the application (Claims 1-20) are now in condition for allowance. The foregoing comments do not require unnecessary additional search or examination.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he/she is hereby authorized to call Joseph D. Dreher, at Telephone Number (216) 861-5582.

Respectfully submitted,

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Enclosure: Replacement Drawing Sheet

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